out of 82 that maintain continuous thermograph records.

The *distribution of the observed monthly mean* temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart IV; the lines are drawn over the Rocky Mountain Plateau region, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

The *highest mean temperatures* were: In the United States, Key West, 67.6; Jupiter, 62.6; Tampa, 57.6; San Diego, 55.8; Yuma, 55.2; in Canada, Esquimault, 38.4; Yarmouth, 25.2; Kamloops, 26.4. The lowest were: In the United States, Moorhead, 2.0; Bismarck, 5.8; Duluth, 9.4; in Canada, Winnipeg, —3.0; Minnedosa, —2.4.

As compared with the normal for January the mean temperature for the current month was in excess throughout the Canadian Provinces and the northern portion of the United States. It was deficient in central California, the Middle and South Atlantic and Gulf States. The greatest excesses were: In the United States, Havre, 8.1; Spokane, 7.9; North Platte, 7.3; in Canada, Swift Current, 10.6; Minnedosa, 9.1; Qu'Appelle, 9.0. The largest deficits were: United States, Amarillo, 5.9; Columbia, S. C., and Jupiter, Fla., 4.4; Chattanooga, 4.1; Canada, none.

Considered by districts the mean temperatures of the current month show departures from the normal as given in Table I. The greatest positive departures were: North Dakota, 3.5; northern Slope, 3.9; middle Plateau, 3.0; northern Plateau, 4.2. The greatest negative departures were: South Atlantic, 3.3; Florida Peninsula, 2.9; southern Slope, 3.2.

The *years of highest and lowest mean temperatures* for January are shown in Table I of the REVIEW for January, 1894. The mean temperature for the current month was the highest on record only at Seattle: 39.1. The mean temperature was the lowest on record only at Amarillo, 27.6.

The *maximum and minimum temperatures* of the current month are given in Table I. The highest maxima were: 80, Jupiter (21st); 79, Key West (21st) and Los Angeles (22d); 78, Tampa and Palestine (1st); 76, Jacksonville (4th), Mobile (17th), Corpus Christi (2d), and San Antonio (1st). The lowest maxima were: 37, Moorhead (1st); 38, Williston (21st); 41, Huron and Idaho Falls (21st). The highest minima were: 51, Key West (29th); 40, San Francisco (11th) and San Diego (2d); 39, Yuma (16th) and Point Reyes Light (13th). The lowest minima were: —38, Havre (24th); —32, Williston (frequently); —30, Bismarck (24th); —29, Duluth (24th); —28, Moorhead (24th).

The *limits of minimum temperatures*, 32° and 40°, are shown by lines on Chart No. V.

The *years of highest maximum and lowest minimum temperatures* for January are given in the last four columns of Table I of the REVIEW for 1896. During the current month the maximum temperatures were equal to or exceeded the highest on record at: Dubuque and Davenport, 63; Miles City, 54: Green Bay, 51; St. Paul, 49; Sault Ste. Marie, 44. The minimum temperatures were equal to or exceeded the lowest on record at: Chicago, —20; Toledo, Detroit, and Pueblo, —16; Columbia, S. C., 10; Tampa, 29; Jupiter, 34.

The *greatest daily range of temperature and the data for computing the extreme and mean monthly ranges* are given for each of the regular Weather Bureau stations in Table I. The largest values of the greatest daily ranges were: Dodge City, 55; Helena, 54; Cheyenne, 51; Northfield, 50; Denver, 48; Pueblo, 47; Lander, 45. The smallest values were: Astoria, 14; Tatoosh Island and San Francisco, 15; Seattle and Key West, 16; Point Reyes Light and Pysht, 17; Port Angeles and Fort Canby, 18.

Among the *extreme monthly ranges* the largest were: Havre, 91; Dubuque, 86; Rapid City, 84; Miles City, Pueblo, Davenport, and Keokuk, 82; La Crosse, 80. The smallest values were: Tatoosh Island and San Francisco, 20; Point Reyes Light, 24; Sacramento, 26; Eureka and Key West, 28; Astoria, 29.

Accumulated monthly departures from normal temperatures for the period January 1 to 31, in regions where the temperature was deficient, the average deficit was as follows: Middle Atlantic, 1.8; south Atlantic, 3.3; Florida Peninsula, 2.9; east Gulf, 2.6; west Gulf, 0.3; Ohio Valley and Tennessee, 1.7; lower Lake, 0.8; southern Slope, 3.2.

In regions where the temperature was in excess, the averexcess was as follows: New England, 0.5; upper Lake, 2.5; North Dakota, 3.5; upper Mississippi, 1.0; Missouri Valley, 2.1; northern Slope, 3.9; middle Slope, 2.6; southern Plateau, 0.3; middle Plateau, 3.0; northern Plateau, 4.2; north Pacific, 1.9; middle Pacific, 0.2; south Pacific, 1.3.

MOISTURE.

The *quantity of moisture* in the atmosphere at any time may be expressed by the weight of the vapor coexisting with the air contained in a cubic foot of space, or by the tension or pressure of the vapor, or by the temperature of the dew-point. The mean dew-point for each station of the Weather Bureau, as deduced from observations made at 8 a. m. and 8 p. m., daily, is given in Table I.

The *rate of evaporation* from a special surface of water on muslin at any moment determines the temperature of the wet-bulb thermometer. The mean wet-bulb temperature is now published in Table I; it is always intermediate, and generally about half way between the temperature of the air and of the dew-point. The quantity of water evaporated from the muslin surface may be considered as depending essentially upon the wet-bulb temperature, the dew-point, and the wind.

The *relative humidity*, or the ratio between the moisture that is present in the air and the moisture that it would contain if saturated at its observed temperature is given in Table I as deduced from the 8 a. m. and 8 p. m. observations. The general average for a whole day or any other interval would properly be obtained from the data given by an evaporometer, but may also be obtained, approximately, from frequent observations of the relative humidity.

PRECIPITATION.

[In inches and hundredths.]

The *distribution of precipitation* for the current month, as determined by reports from about 2,500 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III. The total precipitation for the current month exceeded 10 inches over a narrow region on the coast of Washington and Oregon and over small regions in Arkansas and Louisiana. The larger values for regular stations were: Tatoosh Island, 12.20; Astoria, 9.84; Fort Canby, 9.58; Little Rock, 8.51; Grand Haven, 7.99; San Luis Obispo, 5.22; Jupiter, 5.20. Canada: St. Johns, N. F., 11.40.

Details as to *excessive precipitation* for January are given in Tables XI and XII.

The *years of greatest and least precipitation* for January are given in the REVIEW for January, 1890. The precipitation for the current month was the greatest on record at: Little Rock, 8.51; Grand Haven, 7.99; Columbia, Mo., 6.87; Springfield, Mo., 6.47; Springfield, Ill., 5.91; Keokuk, 4.90; Chicago, 4.53; Phœnix, 3.67; Huron, 2.87; Yuma, 2.83; Kansas City, 2.66; Amarillo, 2.26; Pierre and Minneapolis, 1.66; Moorhead, 1.56; Sioux City, 1.41. It was the least on record at: Idaho Falls, 0.67; Cape Henry, 0.92; Kitty Hawk, 1.35;